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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,421	01/17/2002	Ramsay Chang	9842-271-999	3434

24341 7590 06/25/2003

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[REDACTED] EXAMINER

LAWRENCE JR, FRANK M

ART UNIT	PAPER NUMBER
1724	

DATE MAILED: 06/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/052,421	CHANG ET AL. <i>J</i>
Examiner	Art Unit	
Frank M. Lawrence	1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 20 May 2003.
- 2a) This action is FINAL.                  2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 1-4 and 6-17 is/are allowed.
- 6) Claim(s) 5, 18-21 and 25-28 is/are rejected.
- 7) Claim(s) 22-24 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 20, 2003 has been entered.

### ***Specification***

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Antecedent basis for the new subject matter of claims 1, 18 and 28 should be inserted into the specification. Specifically, the recitations that gas is passed over the sorbent structure "without passing said contaminated gas stream through said sorbent structure," and that "at least a portion of the gas stream passes from the first end to the second end without passing through the sorbent structure" are not found in the specification. These limitations are not considered to be new matter because the system of figure 1 is capable of performing as such.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 25 recites the limitation "the non-porous sorbent structure" in line 4. There is insufficient antecedent basis for this limitation in the claim. It is assumed for examination that only "the sorbent structure" was intended for the claim and that the recitation is a typographical copying error.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 5, 18-21 and 26-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang (5,505,766).

8. Chang ('766) teaches a system for the removal of mercury from a combustor flue gas, comprising applying fresh sorbent from a silo (31) on to the surface of a filter bag (27) positioned in a baghouse that forms part of a duct for conducting flue gas, passing the flue gas over the sorbent structure to adsorb mercury onto the sorbent, removing the sorbent from the filter bag when it becomes saturated, collecting the saturated sorbent outside of the baghouse in a hopper (58), and repeating the adsorbing step with a new quantity of fresh sorbent. Sorbent may also be continuously injected with the flue gas (see col. 8, lines 1-8), which is prior to passing through the baghouse, and the sorbent is injected fluidly upstream of the sorbent structure with respect to the purified outlet (47) (see figures 1, 2, 3c; col. 3, line 30 to col. 5, line 39; col. 6, lines 28-34; col. 8, lines 1-8). The bags of the bag house will comprise tubular walls and a fan (33) provides the force for coating sorbent onto the bags. In the most common type of baghouse,

upper and lower walls define a chamber in a duct with the bags covering openings in one of the walls. It is submitted that at least a portion of the gas stream will flow into the duct and contact walls at opposite ends before flowing through the sorbent structure.

***Allowable Subject Matter***

9. Claims 1-4 and 6-17 are allowed.
10. The following is an examiner's statement of reasons for allowance: The new recitation in claim 1 that the contaminated gas stream is passed over the surface of the sorbent structure without passing through the sorbent structure, is not disclosed in the prior art of record. The closest prior art to Chang '766 discloses using a porous baghouse system that requires contaminated gas to flow through the bags but fails to suggest a motivation for flowing gas over and not through the bags. Reasons for allowance of claims 6-17 are given in paper no. 8

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

11. Claims 22-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. Claim 25 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter:

Reasons for allowability of claim 3 are given in paper no. 8 and parallel the reasons for claim 25.

With respect to claims 22-24, the limitation that the attractive force for attaching the sorbent is electrostatic, magnetic, gravitational, van der Waals, and combinations, or that the sorbent is magnetically attracted to the sorbent structure, are not disclosed in the prior art of record. The closest prior art to Chang '766 fails to suggest any of those particular attractive methods in combination with the limitations of the parent claims.

***Response to Arguments***

14. Applicant's arguments filed May 20, 2003 have been fully considered but they are not persuasive. Applicant argues that the amendment to claim 1 renders that claim and its dependents, including claim 5, allowable. The examiner agrees that the amendment has distinguished claim 1 over the prior art, however claim 5 is independent and has not been amended. Claim 1 and its dependents are now indicated as allowable and claim 5 remains rejected. The limitation in claims 18 and 28 that at least a portion of the gas stream passes from the first end of the duct to the second end without passing through the sorbent structure is inherently disclosed in the system of Chang '766 as discussed above. It is suggested that the limitation be amended to include the passing of contaminated gas with respect to the sorbent structure and the fluid inlet and outlet of the duct rather than the ends of the duct, in order to more clearly distinguish the claims over the Chang patent. These limitations are also required to be added to the specification, and are not considered to be new matter as long as they are clearly disclosed in the drawings.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank M. Lawrence whose telephone number is 703-305-0585. The examiner can normally be reached on Mon-Thurs 7:30-5:00; alternate Fridays 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 703-308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

Frank Lawrence  
*frank Lawrence*  
Primary Examiner 6-23-03

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June 23, 2003